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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,195	01/22/2002	Kazuaki Muranaka	Q68174	9676
7590 06/09/2004			EXAMINER	
SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, NW Washington, DC 20037-3213			HARLAN, ROBERT D	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,195

Applicant(s)

MURANAKA ET AL.

Examiner

Robert D. Harlan

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The Amendment filed by Applicants on 03/12/04 has been entered.
2. New claim 15 has been added.

Response to Amendment/Arguments

3. Applicant's amendment and arguments filed on 03/12/04 have been fully considered and they are found persuasive.
4. The rejection of claims 1-4 and 7-14 under 35 U.S.C. 102(b) as being anticipated by Sugaya et al., U.S. Patent No. 5,180,750 (hereinafter "Sugaya") and Amick, U.S. Patent No. 4,273,878 (hereinafter "Amick") is withdrawn.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the

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art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4 and 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugaya et al., U.S. Patent No. 5,180,750 (hereinafter "Sugaya") in combination with Reed et al., U.S. Patent No. 4,136,067 (hereinafter "Reed"). Sugaya teaches anion exchange resins for separation using polyamine cross-linkers. See Sugaya, col. 9, lines 2-27; claims 7-8. The claims are examined in the broadest light possible. In claim 1, the term "fine" as used to describe the particles of the anion exchange is a relative term. Thus the term "fine" is not a limitation because the term is indefinite. Thus the distinction between Sugaya and the present invention is that the present

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invention requires "polyamines having a number average molecular wt. of at least 50,000." Reed teaches in analogous art hybrid ion exchange resins with improved properties where copolymers are base-functionalized with polyamines have molecular wt. of 600 to 60,000. In view of Reed, one having an ordinary skill in the art would be motivated to modify Sugaya by using polyamines with mol. wt. of 600 to 60,000. Such modification would be obvious because one would expect that the use of ion exchange resins as taught by Sugaya would be similarly useful and applicable to the hybrid exchange resins taught in Reed.

Conclusion

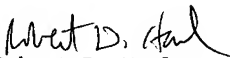
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert D. Harlan whose telephone number is (571) 272-1102. The examiner can normally be reached on Mon-Fri, 10 AM - 8 PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David W. Wu can be reached on (571) 273-1114. The fax phone numbers for the organization where this application or proceeding is assigned

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are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1495.


Robert D. Harlan
Primary Examiner
Art Unit 1713

rdh
June 6, 2004